

DataUtilities.java

```
1      /*
2      * JFreeChart : a free chart library for the Java(tm) platform
3      * =====
4      *
5      * (C) Copyright 2000-2013, by Object Refinery Limited and Contributors.
6      *
7      * Project Info: http://www.jfree.org/jfreechart/index.html
8      *
9      * This library is free software; you can redistribute it and/or modify it
10     * under the terms of the GNU Lesser General Public License as published by
11     * the Free Software Foundation; either version 2.1 of the License, or
12     * (at your option) any later version.
13     *
14     * This library is distributed in the hope that it will be useful, but
15     * WITHOUT ANY WARRANTY; without even the implied warranty of
16     * MERCHANTABILITY
17     * or FITNESS FOR A PARTICULAR PURPOSE. See the GNU Lesser General
18     * Public
19     * License for more details.
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21     * You should have received a copy of the GNU Lesser General Public
22     * License along with this library; if not, write to the Free Software
23     * Foundation, Inc., 51 Franklin Street, Fifth Floor, Boston, MA 02110-1301,
24     * USA.
25     *
```

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24      * [Oracle and Java are registered trademarks of Oracle and/or its affiliates.
25      * Other names may be trademarks of their respective owners.]
26      *
27      * -----
28      * DataUtilities.java
29      * -----
30      * (C) Copyright 2003-2013, by Object Refinery Limited and contributors.
31      *
32      * Original Author: David Gilbert (for Object Refinery Limited);
33      * Contributor(s): Peter Kolb (patch 2511330);
34      *
35      * Changes
36      * -----
37      * 05-Mar-2003 : Version 1 (DG);
38      * 03-Mar-2005 : Moved createNumberArray() and createNumberArray2D()
39      *               methods
40      *               from the DatasetUtilities class (DG);
41      * 17-May-2005 : Added calculateColumnTotal() and calculateRowTotal()
42      *               methods (DG);
43      * 28-Jan-2009 : Added equal(double[][], double[][]) method (DG);
44      * 28-Jan-2009 : Added clone(double[][]) method (DG);
45      * 04-Feb-2009 : Added calculateColumnTotal/RowTotal variants (PK);
46      * 03-Jul-2013 : Use ParamChecks (DG);
47      *
48      */
49      package org.jfree.data;
```

```

50
51 import java.util.Arrays;
52 import org.jfree.chart.util.ParamChecks;
53 import org.jfree.data.general.DatasetUtilities;
54
55 /**
56  * Utility methods for use with some of the data classes (but not the datasets,
57  * see {@link DatasetUtilities}).
58  */
59 public abstract class DataUtilities {
60
61     /**
62      * Tests two arrays for equality. To be considered equal, the arrays must
63      * have exactly the same dimensions, and the values in each array must also
64      * match (two values that are both NaN or both INF are considered equal
65      * in this test).
66      *
67      * @param a the first array (<code>>null</code> permitted).
68      * @param b the second array (<code>>null</code> permitted).
69      *
70      * @return A boolean.
71      *
72      * @since 1.0.13
73      */
74     public static boolean equal(double[][] a, double[][] b) {
75         4 if (a == null) {
76         19 return (b == null);

```

77		}
78	<u>4</u>	if (b == null) {
79	<u>7</u>	return false; // already know 'a' isn't null
80		}
81	<u>8</u>	if (a.length != b.length) {
82	<u>7</u>	return false;
83		}
84	<u>19</u>	for (int i = 0; i < a.length; i++) {
85	<u>19</u>	if (!Arrays.equals(a[i], b[i])) {
86	<u>7</u>	return false;
87		}
88		}
89	<u>8</u>	return true;
90		}
91		
92		/**
93		* Returns a clone of the specified array.
94		*
95		* @param source the source array (<code>>null</code> not permitted).
96		*
97		* @return A clone of the array.
98		*
99		* @since 1.0.13
100		*/
101		public static double[][] clone(double[][] source) {
102	<u>1</u>	ParamChecks.nullNotPermitted(source, "source");
103		double[][] clone = new double[source.length][];

104	<u>19</u>	for (int i = 0; i < source.length; i++) {
105	<u>9</u>	if (source[i] != null) {
106	<u>5</u>	double[] row = new double[source[i].length];
107	<u>21</u>	System.arraycopy(source[i], 0, row, 0, source[i].length);
108	<u>5</u>	clone[i] = row;
109		}
110		}
111	<u>2</u>	return clone;
112		}
113		
114		/**
115		* Returns the total of the values in one column of the supplied data
116		* table.
117		*
118		* @param data the table of values (<code>>null</code> not permitted).
119		* @param column the column index (zero-based).
120		*
121		* @return The total of the values in the specified column.
122		*/
123		public static double calculateColumnTotal(Values2D data, int column) {
124	<u>1</u>	ParamChecks.nullNotPermitted(data, "data");
125	<u>5</u>	double total = 0.0;
126	<u>1</u>	int rowCount = data.getRowCount();
127	<u>25</u>	for (int r = 0; r < rowCount; r++) {
128	<u>11</u>	Number n = data.getValue(r, column);
129	<u>4</u>	if (n != null) {
130	<u>13</u>	total += n.doubleValue();

131		}
132		}
133	<u>7</u>	return total;
134		}
135		
136		/**
137		* Returns the total of the values in one column of the supplied data
138		* table by taking only the row numbers in the array into account.
139		*
140		* @param data the table of values (<code>>null</code> not permitted).
141		* @param column the column index (zero-based).
142		* @param validRows the array with valid rows (zero-based).
143		*
144		* @return The total of the valid values in the specified column.
145		*
146		* @since 1.0.13
147		*/
148		public static double calculateColumnTotal(Values2D data, int column,
149		int[] validRows) {
150	<u>1</u>	ParamChecks.nullNotPermitted(data, "data");
151	<u>5</u>	double total = 0.0;
152	<u>1</u>	int rowCount = data.getRowCount();
153	<u>20</u>	for (int v = 0; v < validRows.length; v++) {
154	<u>10</u>	int row = validRows[v];
155	<u>19</u>	if (row < rowCount) {
156	<u>11</u>	Number n = data.getValue(row, column);
157	<u>4</u>	if (n != null) {

158	<u>13</u>	total += n.doubleValue();
159		}
160		}
161		}
162	<u>7</u>	return total;
163		}
164		
165		/**
166		* Returns the total of the values in one row of the supplied data
167		* table.
168		*
169		* @param data the table of values (<code>null</code> not permitted).
170		* @param row the row index (zero-based).
171		*
172		* @return The total of the values in the specified row.
173		*/
174		public static double calculateRowTotal(Values2D data, int row) {
175	<u>1</u>	ParamChecks.nullNotPermitted(data, "data");
176	<u>5</u>	double total = 0.0;
177	<u>1</u>	int columnCount = data.getColumnCount();
178	<u>25</u>	for (int c = 0; c < columnCount; c++) {
179	<u>11</u>	Number n = data.getValue(row, c);
180	<u>4</u>	if (n != null) {
181	<u>13</u>	total += n.doubleValue();
182		}
183		}
184	<u>7</u>	return total;

```

185     }
186
187     /**
188      * Returns the total of the values in one row of the supplied data
189      * table by taking only the column numbers in the array into account.
190      *
191      * @param data the table of values (<code>null</code> not permitted).
192      * @param row the row index (zero-based).
193      * @param validCols the array with valid cols (zero-based).
194      *
195      * @return The total of the valid values in the specified row.
196      *
197      * @since 1.0.13
198      */
199     public static double calculateRowTotal(Values2D data, int row,
200         int[] validCols) {
201         1 ParamChecks.nullNotPermitted(data, "data");
202         5 double total = 0.0;
203         1 int colCount = data.getColumnCount();
204         20 for (int v = 0; v < validCols.length; v++) {
205             10 int col = validCols[v];
206             19 if (col < colCount) {
207                 11 Number n = data.getValue(row, col);
208                 4 if (n != null) {
209                     13 total += n.doubleValue();
210             }
211         }

```



```

212     }
213     7     return total;
214 }
215
216 /**
217  * Constructs an array of Number objects from an array of
218  * double primitives.
219  *
220  * @param data the data (null not permitted).
221  *
222  * @return An array of Double.
223  */
224 public static Number[] createNumberArray(double[] data) {
225     1     ParamChecks.nullNotPermitted(data, "data");
226     Number[] result = new Number[data.length];
227     19     for (int i = 0; i < data.length; i++) {
228         16     result[i] = new Double(data[i]);
229     }
230     2     return result;
231 }
232
233 /**
234  * Constructs an array of arrays of Number objects from a
235  * corresponding structure containing double primitives.
236  *
237  * @param data the data (null not permitted).
238  *

```

```

239      * @return An array of <code>Double</code>.
240      */
241      public static Number[][] createNumberArray2D(double[][] data) {
242          1 ParamChecks.nullNotPermitted(data, "data");
243          int l1 = data.length;
244          5 Number[][] result = new Number[l1][];
245          25 for (int i = 0; i < l1; i++) {
246          11     result[i] = createNumberArray(data[i]);
247          }
248          2 return result;
249      }
250
251      /**
252       * Returns a {@link KeyedValues} instance that contains the cumulative
253       * percentage values for the data in another {@link KeyedValues} instance.
254       * <p>
255       * The percentages are values between 0.0 and 1.0 (where 1.0 = 100%).
256       *
257       * @param data the data (<code>>null</code> not permitted).
258       *
259       * @return The cumulative percentages.
260       */
261      public static KeyedValues getCumulativePercentages(KeyedValues data) {
262          1 ParamChecks.nullNotPermitted(data, "data");
263          1 DefaultKeyedValues result = new DefaultKeyedValues();
264          5 double total = 0.0;
265          20 for (int i = 0; i < data.getItemCount(); i++) {

```

266	<u>6</u>	Number v = data.getValue(i);
267	<u>4</u>	if (v != null) {
268	<u>13</u>	total = total + v.doubleValue();
269		}
270		}
271	<u>5</u>	double runningTotal = 0.0;
272	<u>20</u>	for (int i = 0; i < data.getItemCount(); i++) {
273	<u>6</u>	Number v = data.getValue(i);
274	<u>4</u>	if (v != null) {
275	<u>13</u>	runningTotal = runningTotal + v.doubleValue();
276		}
277	<u>25</u>	result.addValue(data.getKey(i), new Double(runningTotal / total));
278		}
279	<u>2</u>	return result;
280		}
281		
282		}

Mutations

75

1. negated conditional → KILLED
2. removed conditional - replaced equality check with false → KILLED
3. removed conditional - replaced equality check with true → KILLED
4. not equal to equal → KILLED

76

1. replaced boolean return with false for org/jfree/data/DataUtilities::equal → KILLED
2. replaced boolean return with true for org/jfree/data/DataUtilities::equal → KILLED
3. Substituted 1 with 0 → KILLED
4. Substituted 0 with 1 → KILLED
5. negated conditional → KILLED
6. removed conditional - replaced equality check with false → KILLED
7. removed conditional - replaced equality check with true → KILLED

8. replaced return of integer sized value with (x == 0 ? 1 : 0) → KILLED
9. replaced return of integer sized value with (x == 0 ? 1 : 0) → KILLED
10. Substituted 0 with 1 → KILLED
11. Substituted 1 with 0 → KILLED
12. Substituted 1 with -1 → SURVIVED
13. Substituted 0 with -1 → KILLED
14. Substituted 1 with -1 → SURVIVED
15. Substituted 1 with 2 → KILLED
16. Substituted 0 with 1 → KILLED
17. Substituted 1 with 0 → KILLED
18. Substituted 0 with -1 → KILLED
19. not equal to equal → KILLED

78

1. negated conditional → KILLED
2. removed conditional - replaced equality check with false → KILLED
3. removed conditional - replaced equality check with true → KILLED
4. not equal to equal → KILLED

79

1. replaced boolean return with true for org/jfree/data/DataUtilities::equal → KILLED
2. Substituted 0 with 1 → KILLED
3. replaced return of integer sized value with (x == 0 ? 1 : 0) → KILLED
4. Substituted 0 with 1 → KILLED
5. Substituted 0 with -1 → KILLED
6. Substituted 0 with 1 → KILLED
7. Substituted 0 with -1 → KILLED

81

1. negated conditional → KILLED
2. removed conditional - replaced equality check with false → SURVIVED
3. removed conditional - replaced equality check with true → KILLED
4. equal to less than → KILLED
5. equal to less or equal → SURVIVED
6. equal to greater than → KILLED
7. equal to greater or equal → SURVIVED
8. equal to not equal → KILLED

82

1. replaced boolean return with true for org/jfree/data/DataUtilities::equal → KILLED
2. Substituted 0 with 1 → KILLED
3. replaced return of integer sized value with (x == 0 ? 1 : 0) → KILLED
4. Substituted 0 with 1 → KILLED
5. Substituted 0 with -1 → KILLED
6. Substituted 0 with 1 → KILLED
7. Substituted 0 with -1 → KILLED

84

1. changed conditional boundary → KILLED

2. Substituted 0 with 1 → KILLED
3. negated conditional → KILLED
4. removed conditional - replaced comparison check with false → KILLED
5. removed conditional - replaced comparison check with true → KILLED
6. Negated integer local variable number 2 → KILLED
7. Substituted 0 with 1 → KILLED
8. Substituted 0 with -1 → KILLED
9. Substituted 0 with 1 → KILLED
10. Substituted 0 with -1 → KILLED
11. Less than to less or equal → KILLED
12. Less than to greater than → KILLED
13. Less than to greater or equal → KILLED
14. Less than to equal → KILLED
15. Less than to not equal → SURVIVED
16. Incremented (a++) integer local variable number 2 → KILLED
17. Decrementd (a--) integer local variable number 2 → KILLED
18. Incremented (++a) integer local variable number 2 → KILLED
19. Decrementd (--a) integer local variable number 2 → KILLED

1. negated conditional → KILLED
2. removed call to java/util/Arrays::equals → KILLED
3. removed conditional - replaced equality check with false → KILLED
4. removed conditional - replaced equality check with true → KILLED
5. Negated integer local variable number 2 → KILLED
6. Negated integer local variable number 2 → KILLED
7. not equal to less than → KILLED
8. not equal to less or equal → KILLED
9. not equal to greater than → SURVIVED
10. not equal to greater or equal → KILLED
11. not equal to equal → KILLED
12. Incremented (a++) integer local variable number 2 → KILLED
13. Incremented (a++) integer local variable number 2 → SURVIVED
14. Decrementd (a--) integer local variable number 2 → KILLED
15. Decrementd (a--) integer local variable number 2 → TIMED_OUT
16. Incremented (++a) integer local variable number 2 → KILLED
17. Incremented (++a) integer local variable number 2 → KILLED
18. Decrementd (--a) integer local variable number 2 → KILLED
19. Decrementd (--a) integer local variable number 2 → KILLED

[85](#)

1. replaced boolean return with true for org/jfree/data/DataUtilities::equal → KILLED
2. Substituted 0 with 1 → KILLED
3. replaced return of integer sized value with (x == 0 ? 1 : 0) → KILLED
4. Substituted 0 with 1 → KILLED
5. Substituted 0 with -1 → KILLED

[86](#)

6. Substituted 0 with 1 → KILLED
7. Substituted 0 with -1 → KILLED

89

1. replaced boolean return with false for org/jfree/data/DataUtilities::equal → KILLED
2. Substituted 1 with 0 → KILLED
3. replaced return of integer sized value with (x == 0 ? 1 : 0) → KILLED
4. Substituted 1 with 0 → KILLED
5. Substituted 1 with -1 → SURVIVED
6. Substituted 1 with -1 → SURVIVED
7. Substituted 1 with 2 → KILLED
8. Substituted 1 with 0 → KILLED

102

1. removed call to org/jfree/chart/util/ParamChecks::nullNotPermitted → SURVIVED

104

1. changed conditional boundary → KILLED
2. Substituted 0 with 1 → KILLED
3. negated conditional → KILLED
4. removed conditional - replaced comparison check with false → KILLED
5. removed conditional - replaced comparison check with true → KILLED
6. Negated integer local variable number 2 → KILLED
7. Substituted 0 with 1 → KILLED
8. Substituted 0 with -1 → KILLED
9. Substituted 0 with 1 → KILLED
10. Substituted 0 with -1 → KILLED
11. Less than to less or equal → KILLED
12. Less than to greater than → KILLED
13. Less than to greater or equal → KILLED
14. Less than to equal → KILLED
15. Less than to not equal → SURVIVED
16. Incremented (a++) integer local variable number 2 → KILLED
17. Decrementd (a--) integer local variable number 2 → KILLED
18. Incremented (++a) integer local variable number 2 → KILLED
19. Decrementd (--a) integer local variable number 2 → KILLED

105

1. negated conditional → KILLED
2. removed conditional - replaced equality check with false → KILLED
3. removed conditional - replaced equality check with true → SURVIVED
4. Negated integer local variable number 2 → KILLED
5. equal to not equal → KILLED
6. Incremented (a++) integer local variable number 2 → KILLED
7. Decrementd (a--) integer local variable number 2 → KILLED
8. Incremented (++a) integer local variable number 2 → KILLED
9. Decrementd (--a) integer local variable number 2 → KILLED

106

1. Negated integer local variable number 2 → KILLED
2. Incremented (a++) integer local variable number 2 → KILLED
3. Decrementd (a--) integer local variable number 2 → KILLED
4. Incremented (++a) integer local variable number 2 → KILLED
5. Decrementd (--a) integer local variable number 2 → KILLED

107

1. Substituted 0 with 1 → KILLED
2. Substituted 0 with 1 → KILLED
3. removed call to java/lang/System::arraycopy → SURVIVED
4. Negated integer local variable number 2 → KILLED
5. Negated integer local variable number 2 → KILLED
6. Substituted 0 with 1 → KILLED
7. Substituted 0 with 1 → KILLED
8. Substituted 0 with -1 → KILLED
9. Substituted 0 with -1 → KILLED
10. Substituted 0 with 1 → KILLED
11. Substituted 0 with 1 → KILLED
12. Substituted 0 with -1 → KILLED
13. Substituted 0 with -1 → KILLED
14. Incremented (a++) integer local variable number 2 → KILLED
15. Incremented (a++) integer local variable number 2 → KILLED
16. Decrementd (a--) integer local variable number 2 → KILLED
17. Decrementd (a--) integer local variable number 2 → KILLED
18. Incremented (++a) integer local variable number 2 → KILLED
19. Incremented (++a) integer local variable number 2 → KILLED
20. Decrementd (--a) integer local variable number 2 → KILLED
21. Decrementd (--a) integer local variable number 2 → KILLED

108

1. Negated integer local variable number 2 → KILLED
2. Incremented (a++) integer local variable number 2 → KILLED
3. Decrementd (a--) integer local variable number 2 → TIMED_OUT
4. Incremented (++a) integer local variable number 2 → KILLED
5. Decrementd (--a) integer local variable number 2 → KILLED

111

1. replaced return value with null for org/jfree/data/DataUtilities::clone → KILLED
2. mutated return of Object value for org/jfree/data/DataUtilities::clone to (if (x != null) null else throw new RuntimeException) → KILLED

124

1. removed call to org/jfree/chart/util/ParamChecks::nullNotPermitted → SURVIVED

125

1. Substituted 0.0 with 1.0 → KILLED
2. Substituted 0.0 with 1.0 → KILLED
3. Substituted 0.0 with -1.0 → KILLED
4. Substituted 0.0 with 1.0 → KILLED

5. Substituted 0.0 with -1.0 → KILLED

[126](#)

1. removed call to org/jfree/data/Values2D::getRowCount → KILLED

1. changed conditional boundary → KILLED
2. Changed increment from 1 to -1 → KILLED
3. Substituted 0 with 1 → KILLED
4. negated conditional → KILLED
5. removed conditional - replaced comparison check with false → KILLED
6. removed conditional - replaced comparison check with true → KILLED
7. Negated integer local variable number 5 → KILLED
8. Negated integer local variable number 4 → KILLED
9. Substituted 0 with 1 → KILLED
10. Substituted 0 with -1 → KILLED
11. Substituted 0 with 1 → KILLED
12. Substituted 0 with -1 → KILLED

[127](#)

13. Less than to less or equal → KILLED
14. Less than to greater than → KILLED
15. Less than to greater or equal → KILLED
16. Less than to equal → KILLED

17. Less than to not equal → SURVIVED

18. Incremented (a++) integer local variable number 5 → KILLED
19. Incremented (a++) integer local variable number 4 → KILLED
20. Decrementd (a--) integer local variable number 5 → KILLED
21. Decrementd (a--) integer local variable number 4 → KILLED
22. Incremented (++a) integer local variable number 5 → KILLED
23. Incremented (++a) integer local variable number 4 → KILLED
24. Decrementd (--a) integer local variable number 5 → KILLED
25. Decrementd (--a) integer local variable number 4 → KILLED

1. removed call to org/jfree/data/Values2D::getValue → KILLED
2. Negated integer local variable number 5 → KILLED

3. Negated integer local variable number 1 → SURVIVED

4. Incremented (a++) integer local variable number 5 → KILLED
5. Incremented (a++) integer local variable number 1 → KILLED
6. Decrementd (a--) integer local variable number 5 → KILLED
7. Decrementd (a--) integer local variable number 1 → KILLED
8. Incremented (++a) integer local variable number 5 → KILLED
9. Incremented (++a) integer local variable number 1 → KILLED
10. Decrementd (--a) integer local variable number 5 → KILLED
11. Decrementd (--a) integer local variable number 1 → KILLED

[128](#)

1. negated conditional → KILLED

2. removed conditional - replaced equality check with false → KILLED

3. removed conditional - replaced equality check with true → SURVIVED

4. equal to not equal → KILLED

[129](#)

[130](#)

1. Replaced double addition with subtraction → KILLED
2. removed call to java/lang/Number::doubleValue → KILLED
3. Negated double local variable number 2 → KILLED
4. Replaced double operation with first member → KILLED
5. Replaced double operation by second member → KILLED
6. Replaced double addition with subtraction → KILLED
7. Replaced double addition with multiplication → KILLED
8. Replaced double addition with division → KILLED
9. Replaced double addition with modulus → KILLED
10. Incremented (a++) double local variable number 2 → SURVIVED
11. Decrementd (a--) double local variable number 2 → SURVIVED
12. Incremented (++a) double local variable number 2 → KILLED
13. Decrementd (--a) double local variable number 2 → KILLED

[133](#)

1. replaced double return with 0.0d for
org/jfree/data/DataUtilities::calculateColumnTotal → KILLED
2. replaced return of double value with -(x + 1) for
org/jfree/data/DataUtilities::calculateColumnTotal → KILLED
3. Negated double local variable number 2 → KILLED
4. Incremented (a++) double local variable number 2 → SURVIVED
5. Decrementd (a--) double local variable number 2 → SURVIVED
6. Incremented (++a) double local variable number 2 → KILLED
7. Decrementd (--a) double local variable number 2 → KILLED

[150](#)

1. removed call to org/jfree/chart/util/ParamChecks::nullNotPermitted → SURVIVED

[151](#)

1. Substituted 0.0 with 1.0 → KILLED
2. Substituted 0.0 with 1.0 → KILLED
3. Substituted 0.0 with -1.0 → KILLED
4. Substituted 0.0 with 1.0 → KILLED
5. Substituted 0.0 with -1.0 → KILLED

[152](#)

1. removed call to org/jfree/data/Values2D::getRowCount → KILLED

[153](#)

1. changed conditional boundary → KILLED
2. Changed increment from 1 to -1 → KILLED
3. Substituted 0 with 1 → KILLED
4. negated conditional → KILLED
5. removed conditional - replaced comparison check with false → KILLED
6. removed conditional - replaced comparison check with true → KILLED
7. Negated integer local variable number 6 → KILLED
8. Substituted 0 with 1 → KILLED
9. Substituted 0 with -1 → KILLED
10. Substituted 0 with 1 → KILLED
11. Substituted 0 with -1 → KILLED

12. Less than to less or equal → KILLED
13. Less than to greater than → KILLED
14. Less than to greater or equal → KILLED
15. Less than to equal → KILLED
16. Less than to not equal → SURVIVED
17. Incremented (a++) integer local variable number 6 → KILLED
18. Decrementd (a--) integer local variable number 6 → KILLED
19. Incremented (++a) integer local variable number 6 → KILLED
20. Decrementd (--a) integer local variable number 6 → KILLED

154

1. Negated integer local variable number 6 → KILLED
2. Negated integer array field → KILLED
3. Incremented (a++) integer local variable number 6 → KILLED
4. Incremented (a++) integer array field → SURVIVED
5. Decrementd (a--) integer local variable number 6 → TIMED_OUT
6. Decrementd (a--) integer array field → SURVIVED
7. Incremented (++a) integer local variable number 6 → KILLED
8. Incremented (++a) integer array field → KILLED
9. Decrementd (--a) integer local variable number 6 → KILLED
10. Decrementd (--a) integer array field → KILLED

155

1. changed conditional boundary → SURVIVED
2. negated conditional → KILLED
3. removed conditional - replaced comparison check with false → KILLED
4. removed conditional - replaced comparison check with true → SURVIVED
5. Negated integer local variable number 7 → SURVIVED
6. Negated integer local variable number 5 → KILLED
7. greater or equal to less than → KILLED
8. greater or equal to less or equal → KILLED
9. greater or equal to greater than → SURVIVED
10. greater or equal to equal → SURVIVED
11. greater or equal to not equal → KILLED
12. Incremented (a++) integer local variable number 7 → KILLED
13. Incremented (a++) integer local variable number 5 → SURVIVED
14. Decrementd (a--) integer local variable number 7 → KILLED
15. Decrementd (a--) integer local variable number 5 → KILLED
16. Incremented (++a) integer local variable number 7 → KILLED
17. Incremented (++a) integer local variable number 5 → SURVIVED
18. Decrementd (--a) integer local variable number 7 → KILLED
19. Decrementd (--a) integer local variable number 5 → KILLED

156

1. removed call to org/jfree/data/Values2D::getValue → KILLED
2. Negated integer local variable number 7 → KILLED
3. Negated integer local variable number 1 → SURVIVED
4. Incremented (a++) integer local variable number 7 → SURVIVED
5. Incremented (a++) integer local variable number 1 → KILLED

[157](#)

- 6. Decrementd (a--) integer local variable number 7 → SURVIVED
- 7. Decrementd (a--) integer local variable number 1 → KILLED
- 8. Incremented (++a) integer local variable number 7 → KILLED
- 9. Incremented (++a) integer local variable number 1 → KILLED
- 10. Decrementd (--a) integer local variable number 7 → KILLED
- 11. Decrementd (--a) integer local variable number 1 → KILLED

- 1. negated conditional → KILLED
- 2. removed conditional - replaced equality check with false → KILLED
- 3. removed conditional - replaced equality check with true → SURVIVED
- 4. equal to not equal → KILLED

[158](#)

- 1. Replaced double addition with subtraction → KILLED
- 2. removed call to java/lang/Number::doubleValue → KILLED
- 3. Negated double local variable number 3 → KILLED
- 4. Replaced double operation with first member → KILLED
- 5. Replaced double operation by second member → KILLED
- 6. Replaced double addition with subtraction → KILLED
- 7. Replaced double addition with multiplication → KILLED
- 8. Replaced double addition with division → KILLED
- 9. Replaced double addition with modulus → KILLED
- 10. Incremented (a++) double local variable number 3 → SURVIVED
- 11. Decrementd (a--) double local variable number 3 → SURVIVED
- 12. Incremented (++a) double local variable number 3 → KILLED
- 13. Decrementd (--a) double local variable number 3 → KILLED

[162](#)

- 1. replaced double return with 0.0d for
org/jfree/data/DataUtilities::calculateColumnTotal → KILLED
- 2. replaced return of double value with -(x + 1) for
org/jfree/data/DataUtilities::calculateColumnTotal → KILLED
- 3. Negated double local variable number 3 → KILLED
- 4. Incremented (a++) double local variable number 3 → SURVIVED
- 5. Decrementd (a--) double local variable number 3 → SURVIVED
- 6. Incremented (++a) double local variable number 3 → KILLED
- 7. Decrementd (--a) double local variable number 3 → KILLED

[175](#)

- 1. removed call to org/jfree/chart/util/ParamChecks::nullNotPermitted → KILLED

[176](#)

- 1. Substituted 0.0 with 1.0 → KILLED
- 2. Substituted 0.0 with 1.0 → KILLED
- 3. Substituted 0.0 with -1.0 → KILLED
- 4. Substituted 0.0 with 1.0 → KILLED
- 5. Substituted 0.0 with -1.0 → KILLED

[177](#)

- 1. removed call to org/jfree/data/Values2D::getColumnCount → KILLED

[178](#)

1. changed conditional boundary → KILLED
2. Changed increment from 1 to -1 → KILLED
3. Substituted 0 with 1 → KILLED
4. negated conditional → KILLED
5. removed conditional - replaced comparison check with false → KILLED
6. removed conditional - replaced comparison check with true → KILLED
7. Negated integer local variable number 5 → KILLED
8. Negated integer local variable number 4 → KILLED
9. Substituted 0 with 1 → KILLED
10. Substituted 0 with -1 → KILLED
11. Substituted 0 with 1 → KILLED
12. Substituted 0 with -1 → KILLED
13. Less than to less or equal → KILLED
14. Less than to greater than → KILLED
15. Less than to greater or equal → KILLED
16. Less than to equal → KILLED
17. Less than to not equal → SURVIVED
18. Incremented (a++) integer local variable number 5 → KILLED
19. Incremented (a++) integer local variable number 4 → KILLED
20. Decrementd (a--) integer local variable number 5 → KILLED
21. Decrementd (a--) integer local variable number 4 → KILLED
22. Incremented (++a) integer local variable number 5 → KILLED
23. Incremented (++a) integer local variable number 4 → KILLED
24. Decrementd (--a) integer local variable number 5 → KILLED
25. Decrementd (--a) integer local variable number 4 → KILLED

[179](#)

1. removed call to org/jfree/data/Values2D::getValue → KILLED
2. Negated integer local variable number 1 → SURVIVED
3. Negated integer local variable number 5 → KILLED
4. Incremented (a++) integer local variable number 1 → KILLED
5. Incremented (a++) integer local variable number 5 → KILLED
6. Decrementd (a--) integer local variable number 1 → KILLED
7. Decrementd (a--) integer local variable number 5 → KILLED
8. Incremented (++a) integer local variable number 1 → KILLED
9. Incremented (++a) integer local variable number 5 → KILLED
10. Decrementd (--a) integer local variable number 1 → KILLED
11. Decrementd (--a) integer local variable number 5 → KILLED

[180](#)

1. negated conditional → KILLED
2. removed conditional - replaced equality check with false → KILLED
3. removed conditional - replaced equality check with true → SURVIVED
4. equal to not equal → KILLED

[181](#)

1. Replaced double addition with subtraction → KILLED
2. removed call to java/lang/Number::doubleValue → KILLED
3. Negated double local variable number 2 → KILLED

4. Replaced double operation with first member → KILLED
5. Replaced double operation by second member → KILLED
6. Replaced double addition with subtraction → KILLED
7. Replaced double addition with multiplication → KILLED
8. Replaced double addition with division → KILLED
9. Replaced double addition with modulus → KILLED
10. Incremented (a++) double local variable number 2 → SURVIVED
11. Decrementd (a--) double local variable number 2 → SURVIVED
12. Incremented (++a) double local variable number 2 → KILLED
13. Decrementd (--a) double local variable number 2 → KILLED

[284](#)

1. replaced double return with 0.0d for
org/jfree/data/DataUtilities::calculateRowTotal → KILLED
2. replaced return of double value with -(x + 1) for
org/jfree/data/DataUtilities::calculateRowTotal → KILLED
3. Negated double local variable number 2 → KILLED
4. Incremented (a++) double local variable number 2 → SURVIVED
5. Decrementd (a--) double local variable number 2 → SURVIVED
6. Incremented (++a) double local variable number 2 → KILLED
7. Decrementd (--a) double local variable number 2 → KILLED

[201](#)

1. removed call to org/jfree/chart/util/ParamChecks::nullNotPermitted → SURVIVED

[202](#)

1. Substituted 0.0 with 1.0 → KILLED
2. Substituted 0.0 with 1.0 → KILLED
3. Substituted 0.0 with -1.0 → KILLED
4. Substituted 0.0 with 1.0 → KILLED
5. Substituted 0.0 with -1.0 → KILLED

[203](#)

1. removed call to org/jfree/data/Values2D::getColumnCount → KILLED

[204](#)

1. changed conditional boundary → KILLED
2. Changed increment from 1 to -1 → KILLED
3. Substituted 0 with 1 → KILLED
4. negated conditional → KILLED
5. removed conditional - replaced comparison check with false → KILLED
6. removed conditional - replaced comparison check with true → KILLED
7. Negated integer local variable number 6 → KILLED
8. Substituted 0 with 1 → KILLED
9. Substituted 0 with -1 → KILLED
10. Substituted 0 with 1 → KILLED
11. Substituted 0 with -1 → KILLED
12. Less than to less or equal → KILLED
13. Less than to greater than → KILLED
14. Less than to greater or equal → KILLED

15. Less than to equal → KILLED
16. Less than to not equal → SURVIVED
17. Incremented (a++) integer local variable number 6 → KILLED
18. Decrementd (a--) integer local variable number 6 → KILLED
19. Incremented (++a) integer local variable number 6 → KILLED
20. Decrementd (--a) integer local variable number 6 → KILLED

205

1. Negated integer local variable number 6 → KILLED
2. Negated integer array field → KILLED
3. Incremented (a++) integer local variable number 6 → KILLED
4. Incremented (a++) integer array field → SURVIVED
5. Decrementd (a--) integer local variable number 6 → TIMED_OUT
6. Decrementd (a--) integer array field → SURVIVED
7. Incremented (++a) integer local variable number 6 → KILLED
8. Incremented (++a) integer array field → KILLED
9. Decrementd (--a) integer local variable number 6 → KILLED
10. Decrementd (--a) integer array field → KILLED

206

1. changed conditional boundary → SURVIVED
2. negated conditional → KILLED
3. removed conditional - replaced comparison check with false → KILLED
4. removed conditional - replaced comparison check with true → SURVIVED
5. Negated integer local variable number 7 → SURVIVED
6. Negated integer local variable number 5 → KILLED
7. greater or equal to less than → KILLED
8. greater or equal to less or equal → KILLED
9. greater or equal to greater than → SURVIVED
10. greater or equal to equal → SURVIVED
11. greater or equal to not equal → KILLED
12. Incremented (a++) integer local variable number 7 → KILLED
13. Incremented (a++) integer local variable number 5 → SURVIVED
14. Decrementd (a--) integer local variable number 7 → KILLED
15. Decrementd (a--) integer local variable number 5 → KILLED
16. Incremented (++a) integer local variable number 7 → KILLED
17. Incremented (++a) integer local variable number 5 → SURVIVED
18. Decrementd (--a) integer local variable number 7 → KILLED
19. Decrementd (--a) integer local variable number 5 → KILLED

207

1. removed call to org/jfree/data/Values2D::getValue → KILLED
2. Negated integer local variable number 1 → SURVIVED
3. Negated integer local variable number 7 → KILLED
4. Incremented (a++) integer local variable number 1 → KILLED
5. Incremented (a++) integer local variable number 7 → SURVIVED
6. Decrementd (a--) integer local variable number 1 → KILLED
7. Decrementd (a--) integer local variable number 7 → SURVIVED
8. Incremented (++a) integer local variable number 1 → KILLED

[208](#)

9. Incremented (++a) integer local variable number 7 → KILLED
10. Decrementd (--a) integer local variable number 1 → KILLED
11. Decrementd (--a) integer local variable number 7 → KILLED

1. negated conditional → KILLED
2. removed conditional - replaced equality check with false → KILLED
3. removed conditional - replaced equality check with true → SURVIVED
4. equal to not equal → KILLED

[209](#)

1. Replaced double addition with subtraction → KILLED
2. removed call to java/lang/Number::doubleValue → KILLED
3. Negated double local variable number 3 → KILLED
4. Replaced double operation with first member → KILLED
5. Replaced double operation by second member → KILLED
6. Replaced double addition with subtraction → KILLED
7. Replaced double addition with multiplication → KILLED
8. Replaced double addition with division → KILLED
9. Replaced double addition with modulus → KILLED
10. Incremented (a++) double local variable number 3 → SURVIVED
11. Decrementd (a--) double local variable number 3 → SURVIVED
12. Incremented (++a) double local variable number 3 → KILLED
13. Decrementd (--a) double local variable number 3 → KILLED

[213](#)

1. replaced double return with 0.0d for
org/jfree/data/DataUtilities::calculateRowTotal → KILLED
2. replaced return of double value with -(x + 1) for
org/jfree/data/DataUtilities::calculateRowTotal → KILLED
3. Negated double local variable number 3 → KILLED
4. Incremented (a++) double local variable number 3 → SURVIVED
5. Decrementd (a--) double local variable number 3 → SURVIVED
6. Incremented (++a) double local variable number 3 → KILLED
7. Decrementd (--a) double local variable number 3 → KILLED

[225](#)

1. removed call to org/jfree/chart/util/ParamChecks::nullNotPermitted → SURVIVED

[227](#)

1. changed conditional boundary → KILLED
2. Substituted 0 with 1 → KILLED
3. negated conditional → KILLED
4. removed conditional - replaced comparison check with false → KILLED
5. removed conditional - replaced comparison check with true → KILLED
6. Negated integer local variable number 2 → KILLED
7. Substituted 0 with 1 → KILLED
8. Substituted 0 with -1 → KILLED
9. Substituted 0 with 1 → KILLED
10. Substituted 0 with -1 → KILLED

11. Less than to less or equal → KILLED
12. Less than to greater than → KILLED
13. Less than to greater or equal → KILLED
14. Less than to equal → KILLED
15. Less than to not equal → SURVIVED
16. Incremented (a++) integer local variable number 2 → KILLED
17. Decrementd (a--) integer local variable number 2 → KILLED
18. Incremented (++a) integer local variable number 2 → KILLED
19. Decrementd (--a) integer local variable number 2 → KILLED

[228](#)

1. removed call to java/lang/Double::<init> → KILLED
2. Negated integer local variable number 2 → KILLED
3. Negated integer local variable number 2 → KILLED
4. Negated double array field → KILLED
5. Incremented (a++) integer local variable number 2 → KILLED
6. Incremented (a++) integer local variable number 2 → KILLED
7. Incremented (a++) double array field → SURVIVED
8. Decrementd (a--) integer local variable number 2 → KILLED
9. Decrementd (a--) integer local variable number 2 → TIMED_OUT
10. Decrementd (a--) double array field → SURVIVED
11. Incremented (++a) integer local variable number 2 → KILLED
12. Incremented (++a) integer local variable number 2 → KILLED
13. Incremented (++a) double array field → KILLED
14. Decrementd (--a) integer local variable number 2 → KILLED
15. Decrementd (--a) integer local variable number 2 → KILLED
16. Decrementd (--a) double array field → KILLED

[230](#)

1. replaced return value with null for
org/jfree/data/DataUtilities::createNumberArray → KILLED
2. mutated return of Object value for
org/jfree/data/DataUtilities::createNumberArray to (if (x != null) null else
throw new RuntimeException) → KILLED

[242](#)

1. removed call to org/jfree/chart/util/ParamChecks::nullNotPermitted → SURVIVED

[244](#)

1. Negated integer local variable number 1 → KILLED
2. Incremented (a++) integer local variable number 1 → KILLED
3. Decrementd (a--) integer local variable number 1 → KILLED
4. Incremented (++a) integer local variable number 1 → KILLED
5. Decrementd (--a) integer local variable number 1 → KILLED

[245](#)

1. changed conditional boundary → KILLED
2. Changed increment from 1 to -1 → KILLED
3. Substituted 0 with 1 → KILLED
4. negated conditional → KILLED

5. removed conditional - replaced comparison check with false → KILLED
 6. removed conditional - replaced comparison check with true → KILLED
 7. Negated integer local variable number 3 → KILLED
 8. Negated integer local variable number 1 → KILLED
 9. Substituted 0 with 1 → KILLED
 10. Substituted 0 with -1 → KILLED
 11. Substituted 0 with 1 → KILLED
 12. Substituted 0 with -1 → KILLED
 13. Less than to less or equal → KILLED
 14. Less than to greater than → KILLED
 15. Less than to greater or equal → KILLED
 16. Less than to equal → KILLED
 17. Less than to not equal → SURVIVED
 18. Incremented (a++) integer local variable number 3 → KILLED
 19. Incremented (a++) integer local variable number 1 → KILLED
 20. Decrementd (a--) integer local variable number 3 → KILLED
 21. Decrementd (a--) integer local variable number 1 → KILLED
 22. Incremented (++a) integer local variable number 3 → KILLED
 23. Incremented (++a) integer local variable number 1 → KILLED
 24. Decrementd (--a) integer local variable number 3 → KILLED
 25. Decrementd (--a) integer local variable number 1 → KILLED

[246](#)

1. removed call to org/jfree/data/DataUtilities::createNumberArray → KILLED
 2. Negated integer local variable number 3 → KILLED
 3. Negated integer local variable number 3 → KILLED
 4. Incremented (a++) integer local variable number 3 → KILLED
 5. Incremented (a++) integer local variable number 3 → KILLED
 6. Decrementd (a--) integer local variable number 3 → KILLED
 7. Decrementd (a--) integer local variable number 3 → TIMED_OUT
 8. Incremented (++a) integer local variable number 3 → KILLED
 9. Incremented (++a) integer local variable number 3 → KILLED
 10. Decrementd (--a) integer local variable number 3 → KILLED
 11. Decrementd (--a) integer local variable number 3 → KILLED

[248](#)

1. replaced return value with null for
 org/jfree/data/DataUtilities::createNumberArray2D → KILLED
 2. mutated return of Object value for
 org/jfree/data/DataUtilities::createNumberArray2D to (if (x != null) null else
 throw new RuntimeException) → KILLED

[262](#)

1. removed call to org/jfree/chart/util/ParamChecks::nullNotPermitted → SURVIVED

[263](#)

1. removed call to org/jfree/data/DefaultKeyedValues::<init> → KILLED

[264](#)

1. Substituted 0.0 with 1.0 → KILLED

2. Substituted 0.0 with 1.0 → KILLED
3. Substituted 0.0 with -1.0 → KILLED
4. Substituted 0.0 with 1.0 → KILLED
5. Substituted 0.0 with -1.0 → KILLED

265

1. changed conditional boundary → KILLED
2. Substituted 0 with 1 → KILLED
3. negated conditional → KILLED
4. removed call to org/jfree/data/KeyedValues::getItemCount → KILLED
5. removed conditional - replaced comparison check with false → KILLED
6. removed conditional - replaced comparison check with true → KILLED
7. Negated integer local variable number 4 → KILLED
8. Substituted 0 with 1 → KILLED
9. Substituted 0 with -1 → KILLED
10. Substituted 0 with 1 → KILLED
11. Substituted 0 with -1 → KILLED
12. Less than to less or equal → KILLED
13. Less than to greater than → KILLED
14. Less than to greater or equal → KILLED
15. Less than to equal → KILLED
16. Less than to not equal → SURVIVED
17. Incremented (a++) integer local variable number 4 → KILLED
18. Decrementd (a--) integer local variable number 4 → KILLED
19. Incremented (++a) integer local variable number 4 → KILLED
20. Decrementd (--a) integer local variable number 4 → KILLED

266

1. removed call to org/jfree/data/KeyedValues::getValue → KILLED
2. Negated integer local variable number 4 → KILLED
3. Incremented (a++) integer local variable number 4 → KILLED
4. Decrementd (a--) integer local variable number 4 → TIMED_OUT
5. Incremented (++a) integer local variable number 4 → KILLED
6. Decrementd (--a) integer local variable number 4 → KILLED

267

1. negated conditional → KILLED
2. removed conditional - replaced equality check with false → KILLED
3. removed conditional - replaced equality check with true → SURVIVED
4. equal to not equal → KILLED

268

1. Replaced double addition with subtraction → KILLED
2. removed call to java/lang/Number::doubleValue → KILLED
3. Negated double local variable number 2 → KILLED
4. Replaced double operation with first member → KILLED
5. Replaced double operation by second member → KILLED
6. Replaced double addition with subtraction → KILLED
7. Replaced double addition with multiplication → KILLED
8. Replaced double addition with division → KILLED

- 9. Replaced double addition with modulus → KILLED
- 10. Incremented (a++) double local variable number 2 → SURVIVED
- 11. Decrementd (a--) double local variable number 2 → SURVIVED
- 12. Incremented (++a) double local variable number 2 → KILLED
- 13. Decrementd (--a) double local variable number 2 → KILLED

[271](#)

- 1. Substituted 0.0 with 1.0 → KILLED
- 2. Substituted 0.0 with 1.0 → KILLED
- 3. Substituted 0.0 with -1.0 → KILLED
- 4. Substituted 0.0 with 1.0 → KILLED
- 5. Substituted 0.0 with -1.0 → KILLED

[272](#)

- 1. changed conditional boundary → KILLED
- 2. Substituted 0 with 1 → KILLED
- 3. negated conditional → KILLED
- 4. removed call to org/jfree/data/KeyedValues::getItemCount → KILLED
- 5. removed conditional - replaced comparison check with false → KILLED
- 6. removed conditional - replaced comparison check with true → KILLED
- 7. Negated integer local variable number 8 → KILLED
- 8. Substituted 0 with 1 → KILLED
- 9. Substituted 0 with -1 → KILLED
- 10. Substituted 0 with 1 → KILLED
- 11. Substituted 0 with -1 → KILLED
- 12. Less than to less or equal → KILLED
- 13. Less than to greater than → KILLED
- 14. Less than to greater or equal → KILLED
- 15. Less than to equal → KILLED
- 16. Less than to not equal → SURVIVED
- 17. Incremented (a++) integer local variable number 8 → KILLED
- 18. Decrementd (a--) integer local variable number 8 → KILLED
- 19. Incremented (++a) integer local variable number 8 → KILLED
- 20. Decrementd (--a) integer local variable number 6 → KILLED

[273](#)

- 1. removed call to org/jfree/data/KeyedValues::getValue → KILLED
- 2. Negated integer local variable number 8 → KILLED
- 3. Incremented (a++) integer local variable number 8 → KILLED
- 4. Decrementd (a--) integer local variable number 8 → KILLED
- 5. Incremented (++a) integer local variable number 8 → KILLED
- 6. Decrementd (--a) integer local variable number 6 → KILLED

[274](#)

- 1. negated conditional → KILLED
- 2. removed conditional - replaced equality check with false → KILLED
- 3. removed conditional - replaced equality check with true → SURVIVED
- 4. equal to not equal → KILLED

[275](#)

- 1. Replaced double addition with subtraction → KILLED

2. removed call to java/lang/Number::doubleValue → KILLED
3. Negated double local variable number 6 → KILLED
4. Replaced double operation with first member → KILLED
5. Replaced double operation by second member → KILLED
6. Replaced double addition with subtraction → KILLED
7. Replaced double addition with multiplication → KILLED
8. Replaced double addition with division → KILLED
9. Replaced double addition with modulus → KILLED
10. Incremented (a++) double local variable number 6 → SURVIVED
11. Decrementd (a--) double local variable number 6 → SURVIVED
12. Incremented (++a) double local variable number 6 → KILLED
13. Decrementd (--a) double local variable number 4 → KILLED

1. removed call to java/lang/Double::<init> → KILLED
2. Replaced double division with multiplication → KILLED
3. removed call to org/jfree/data/KeyedValues::getKey → KILLED
4. removed call to org/jfree/data/DefaultKeyedValues::addValue → KILLED
5. Negated integer local variable number 8 → KILLED
6. Negated double local variable number 6 → KILLED
7. Negated double local variable number 2 → KILLED
8. Replaced double operation with first member → KILLED
9. Replaced double operation by second member → KILLED
10. Replaced double division with multiplication → KILLED
11. Replaced double division with modulus → KILLED
12. Replaced double division with addition → KILLED
13. Replaced double division with subtraction → KILLED
14. Incremented (a++) integer local variable number 8 → KILLED
15. Incremented (a++) double local variable number 6 → KILLED
16. Incremented (a++) double local variable number 2 → KILLED
17. Decrementd (a--) integer local variable number 8 → TIMED_OUT
18. Decrementd (a--) double local variable number 6 → KILLED
19. Decrementd (a--) double local variable number 2 → KILLED
20. Incremented (++a) integer local variable number 8 → KILLED
21. Incremented (++a) double local variable number 6 → KILLED
22. Incremented (++a) double local variable number 2 → KILLED
23. Decrementd (--a) integer local variable number 6 → KILLED
24. Decrementd (--a) double local variable number 4 → KILLED
25. Decrementd (--a) double local variable number 2 → KILLED

[277](#)

1. replaced return value with null for
org/jfree/data/DataUtilities::getCumulativePercentages → KILLED
2. mutated return of Object value for
org/jfree/data/DataUtilities::getCumulativePercentages to (if (x != null) null
else throw new RuntimeException) → KILLED

[279](#)

Active mutators

- ABS_MUTATOR
- AOD_1_MUTATOR
- AOD_2_MUTATOR
- AOR_1_MUTATOR
- AOR_2_MUTATOR
- AOR_3_MUTATOR
- AOR_4_MUTATOR
- ARGUMENT_PROPAGATION_MUTATOR
- BOOLEAN_FALSE_RETURN
- BOOLEAN_TRUE_RETURN
- CONDITIONALS_BOUNDARY_MUTATOR
- CONSTRUCTOR_CALL_MUTATOR
- CRCR_1_MUTATOR
- CRCR_2_MUTATOR
- CRCR_3_MUTATOR
- CRCR_4_MUTATOR
- CRCR_5_MUTATOR
- CRCR_6_MUTATOR
- EMPTY_RETURN_VALUES
- EXPERIMENTAL_BIGINTEGER_MUTATOR
- EXPERIMENTAL_MEMBER_VARIABLE_MUTATOR
- EXPERIMENTAL_REMOVE_SWITCH_MUTATOR_[0-99]
- EXPERIMENTAL_SWITCH_MUTATOR
- INCREMENTS_MUTATOR
- INLINE_CONSTANT_MUTATOR
- INVERT_NEGS_MUTATOR
- MATH_MUTATOR
- NAKED_RECEIVER
- NEGATE_CONDITIONALS_MUTATOR
- NON_VOID_METHOD_CALL_MUTATOR
- NULL_RETURN_VALUES
- OBBN_1_MUTATOR
- OBBN_2_MUTATOR
- OBBN_3_MUTATOR
- PRIMITIVE_RETURN_VALS_MUTATOR
- REMOVE_CONDITIONALS_EQUAL_ELSE_MUTATOR
- REMOVE_CONDITIONALS_EQUAL_IF_MUTATOR
- REMOVE_CONDITIONALS_ORDER_ELSE_MUTATOR
- REMOVE_CONDITIONALS_ORDER_IF_MUTATOR
- REMOVE_INCREMENTS_MUTATOR
- RETURN_VALS_MUTATOR
- ROR_1_MUTATOR
- ROR_2_MUTATOR

- ROR_3_MUTATOR
- ROR_4_MUTATOR
- ROR_5_MUTATOR
- UOI_1_MUTATOR
- UOI_2_MUTATOR
- UOI_3_MUTATOR
- UOI_4_MUTATOR
- VOID_METHOD_CALL_MUTATOR

Tests examined

- org.jfree.data.DataUtilitiesTest.calculateRowTotalPos(org.jfree.data.DataUtilitiesTest) (3 ms)
- org.jfree.data.DataUtilitiesTest.testEmptyArrayOneNULL(org.jfree.data.DataUtilitiesTest) (1 ms)
- org.jfree.data.DataUtilitiesTest.test1NULLand1EmptyArrayEquality(org.jfree.data.DataUtilitiesTest) (1 ms)
- org.jfree.data.DataUtilitiesTest.test1NULLand1NormalArrayEquality(org.jfree.data.DataUtilitiesTest) (3 ms)
- org.jfree.data.DataUtilitiesTest.calculateRowTotalOneColumn(org.jfree.data.DataUtilitiesTest) (4 ms)
- org.jfree.data.DataUtilitiesTest.calculateRowTotalNeg(org.jfree.data.DataUtilitiesTest) (4 ms)
- org.jfree.data.DataUtilitiesTest.testEmptyArraysBothNULL(org.jfree.data.DataUtilitiesTest) (1 ms)
- org.jfree.data.DataUtilitiesTest.testUnequalArraysEquality(org.jfree.data.DataUtilitiesTest) (1 ms)
- org.jfree.data.DataUtilitiesTest.calculateRowTotalZero(org.jfree.data.DataUtilitiesTest) (3 ms)
- org.jfree.data.DataUtilitiesTest.testAValidInputUsingMiddleColumnsForMethodCalculateColumnTotal(org.jfree.data.DataUtilitiesTest) (5 ms)
- org.jfree.data.DataUtilitiesTest.testAValidInputUsingEdgeColumnsForMethodCalculateRowTotal(org.jfree.data.DataUtilitiesTest) (3 ms)
- org.jfree.data.DataUtilitiesTest.test2NULLArraysEquality(org.jfree.data.DataUtilitiesTest) (1 ms)
- org.jfree.data.DataUtilitiesTest.calculateColumnTotalForThreeRowswithPosNegValues(org.jfree.data.DataUtilitiesTest) (3 ms)
- org.jfree.data.DataUtilitiesTest.testUnequalDimensionsArraysEquality(org.jfree.data.DataUtilitiesTest) (1 ms)
- org.jfree.data.DataUtilitiesTest.testAValidInputUsingEdgeRowsForMethodCalculateColumnTotal(org.jfree.data.DataUtilitiesTest) (10 ms)
- org.jfree.data.DataUtilitiesTest.test2INFArraysEquality(org.jfree.data.DataUtilitiesTest) (2 ms)
- org.jfree.data.DataUtilitiesTest.testGetCumulativePercentagesPositive(org.jfree.data.DataUtilitiesTest) (6 ms)

- org.jfree.data.DataUtilitiesTest.testClone(org.jfree.data.DataUtilitiesTest) (1 ms)
- org.jfree.data.DataUtilitiesTest.calculateColumnTotalForFiveRows(org.jfree.data.DataUtilitiesTest) (64 ms)
- org.jfree.data.DataUtilitiesTest.testCreateNumberArray(org.jfree.data.DataUtilitiesTest) (5 ms)
- org.jfree.data.DataUtilitiesTest.testGetCumulativePercentagesNegative(org.jfree.data.DataUtilitiesTest) (29 ms)
- org.jfree.data.DataUtilitiesTest.test1NANand1INFArrayEquality(org.jfree.data.DataUtilitiesTest) (2 ms)
- org.jfree.data.DataUtilitiesTest.testEmptyArraysEquality(org.jfree.data.DataUtilitiesTest) (2 ms)
- org.jfree.data.DataUtilitiesTest.calculateColumnTotalForTwoRowswithNegValues(org.jfree.data.DataUtilitiesTest) (4 ms)
- org.jfree.data.DataUtilitiesTest.testCreateNumberArray2D(org.jfree.data.DataUtilitiesTest) (2 ms)
- org.jfree.data.DataUtilitiesTest.testAValidInputUsingMiddleColumnsForMethodCalculateRowTotal(org.jfree.data.DataUtilitiesTest) (3 ms)
- org.jfree.data.DataUtilitiesTest.testEqualArraysEquality(org.jfree.data.DataUtilitiesTest) (4 ms)
- org.jfree.data.DataUtilitiesTest.calculateRowTotalIllegalArgumentException(org.jfree.data.DataUtilitiesTest) (3 ms)
- org.jfree.data.DataUtilitiesTest.testEqualArraysDiffSize(org.jfree.data.DataUtilitiesTest) (2 ms)
- org.jfree.data.DataUtilitiesTest.test2NANArraysEquality(org.jfree.data.DataUtilitiesTest) (1 ms)